Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BENJAMIN APTHORP GOULD.

Benjamin Apthorp Gould was born on September 27, 1824, at No. 5 Winthrop Place, Boston. The years of his preparatory education were passed at the Chauncy Hall and Boston Latin Schools. He graduated from Harvard College in 1844. It is interesting to note, as evidence of his wonderful versatility of mind, and in view of the subsequent choice of a career which has made his name so illustrious in the annals of science, that, although he attained in college high distinction in mathematical and physical branches, the earliest studies of his predilection were classical rather than scientific. After leaving college he took charge of the Boston Latin School. At the end of a year, however, his intellectual energies took their final direction towards science. What were the springs of the influence which turned him to astronomy, and how long the impulse had been gathering force, cannot now be told, but the passionate devotion with which he entered upon this career, and the tenacity with which he held to it, — at times under circumstances of extreme discouragement which never caused him to falter or swerve from his purpose, — are characteristic of the man. This initial decision of a young man of twenty-one, as we look back upon it from a point where we can measure the results that have flowed from it, seems not so much an episode in an individual career as an epoch in our national scientific history. For the date, July, 1845, when Gould placed his foot upon the steamer from Boston, with the avowed and definite purpose to devote himself to a life purely of scientific research, marks quite distinctly a most important phase in American astronomy. Up to that time the instance of a man doing this as his only earthly aim, while unassured of a professor's chair or other similar appointment, and not as a means of livelihood, was in this country absolutely unknown. With a steadiness of purpose singular in so young a man, he pursued diligently the opportunity he had himself created, for three years at the fountain-heads of astronomical learning. Beginning his life of preparation, study, and work with Airy at Greenwich, he then went to Paris. But it was afterwards, in Germany, that he secured his true education in the regenerated methods of modern astronomical research; at Berlin, where he spent a year with Encke; at Altona, Pulkowa, and Gotha, under Peters, Struve, and Hansen; and at Göttingen, where for a year he was a pupil of Gauss, and where he took his Doctorate of Philosophy at the University in 1848. He then returned home, full of early honors and flushed with lofty hopes and honorable ambitions.

From this point Dr. Gould's life became one of incessant activity, impressing its mark in many ways upon the intellectual life of the community; but the line of intensest force naturally took the direction of his own beloved science, to which he communicated an impulse not measured merely by what he accomplished for it by his direct investigations, great as that is, but also by the force which always emanates from so earnest a nature. He inspired a new breath into American astronomy. The new atmosphere which he brought with him from Germany, where he had caught the spirit of the great masters under whom he studied, became gradually transfused upon this side the sea. His enthusiasm for the introduction of better means and methods of research was caught by his compatriots, their courage to regenerate our science was sustained, and transmitted through various channels to the next and to the present generation. Thus we may say without fear of being controverted that American astronomy to-day is a different thing from what it would have been without Gould's predominant influence, deep and quiet but strong, to upbuild it and to free it from the clumsiness and imperfections which still impede it, even in some of the otherwise most enlightened nations of the world. It is under his leadership that American astronomy has climbed to where it looks with steady and level eye upon that of Germany, which occupies perhaps a larger, but not a loftier plane.

Let us now glance at Dr. Gould's more prominent labors, passing by his earlier important investigations in applied theoretical and in practical astronomy, as well as his numerous and valuable contributions to the literature of science, education, and other departments of thought, which we find scattered through the long range of his career. In 1852 he was appointed to take charge of the longitude determinations of the Coast Survey. He organized, developed, and extended this service, retiring in 1867. Meanwhile, in 1855, he became director of the Dudley Observatory in Albany, equipped and organized the institution, and carried it on without remuneration and at his private expense. He left it in 1859, after a severe struggle to preserve the institution for purposes of scientific investigation.

In 1859 he published his discussion of the places and proper motions of circumpolar stars, for use as standards in the Coast Survey. These, as revised by him in 1861, together with his similar list of clock-stars, were adopted as the standards for the American Ephemeris, and, as to the circumpolars, remain in such use to this day. In 1866 he published his reduction of D'Agelet's observations. About the same time he performed a similar service for the greater part of the observations made at the United States Naval Observatory since its establishment, as he had done also, several years previously, for the expedition to Chili to determine the solar parallax. In 1866 he planned and executed the work of establishing, by the Atlantic cable, the relation in longitude between European and American stations, involving, as a part, interesting researches on the velocity of the galvanic current in submarine cables, similar to those he had already made on land-lines. As actuary of the United States Sanitary Commission, he conducted, and published in a large volume, extensive and important researches upon Military and Anthropological Statistics and the Distribution of Population. About the same time he undertook the reduction of Rutherfurd's photographs of the Pleiades. The results, partially published in 1866, were submitted completely, in an elaborate memoir, to the National Academy in 1870, together with a second memoir on the Præsepe. He was, indeed, a pioneer in the utilization of photography for exact astronomical measurement. About 1864 he built an observatory in Cambridge, equipped with an eight-foot transit instrument, and, until 1867, carried on a determination of the right ascensions of all the stars to the tenth magnitude within one degree of the pole. The work was completely reduced, but the discussion and publication were postponed by his removal to Cordoba.

In 1865 he became intensely impressed with a desire to explore the southern celestial hemisphere. The opportunity to do so soon came. This project assumed at first the form of a private astronomical expedition, for which his friends in Boston had promised the pecuniary means; but, under the enthusiastic support of Mr. Sarmiento, at first as Argentine Minister to this country, and later as President of that republic, it rapidly broadened, and finally led to the establishment by Dr. Gould of a permanent National Observatory at Cordoba. This marks an epoch in modern astronomy, the equalization of our knowledge of the two celestial hemispheres. The institution and its work form an impressive monument to his memory.

It is impossible, in brief space, to describe or characterize the marvellous work here undertaken and so faultlessly pushed to completion by Dr. Gould, during the fifteen years of self-imposed exile from his native land, with unfaltering devotion and energy, in the face of difficulty and domestic bereavement. The work on the uranography of the southern heavens was finished in 1874, and was published under the title of the "Uranometria Argentina," which will remain a classic for all time. The zone observations of the stars between 23° and 80° south declination, which were the original and always the dominant object of the enterprise, were begun in 1872, substantially completed in 1877, and revised in 1882–83. This work was embodied in the Zone Catalogues, containing 73,160 stars, which appeared in 1884. Parallel with this, and almost overshadowing it in importance, was carried on the independent series of meridian-circle observations for the General Catalogue of 32,448 stars, completed in 1885. Dr. Gould, besides, left the manuscript of the remainder of his series of fifteen volumes, not then published, — containing the observations and the annual catalogues, incorporated in the General Catalogue, — complete to the minutest detail, ready for the printer. These have since appeared, from time to time, — the last volume, rounding out his work, reaching Cambridge but a few hours before his death.

Another part of the work for the Cordoba Observatory, planned by Dr. Gould as a fitting extension of it, was a "Durchmusterung" of the southern sky. For this, indeed, he had provided the instrumental means and trained the assistants, it being his purpose to be ready to begin it at any time in case of any unforeseen delay or accident to the other work. On leaving Cordoba he confided it to the care of Dr. Thome, by whom, with Mr. Tucker, it has been so worthily conducted.

Dr. Gould also established, under the auspices of the Argentine government, a meteorological service, second in extent, it is believed, only to that of the United States. Upon leaving South America he intrusted this charge to the hands of his worthy successor, Walter G. Davis.

The earliest to recognize and demonstrate the capabilities of photography to render service to the astronomy of precision, Dr. Gould, by his experience with the Rutherfurd plates of the Pleiades and the Præsepe, was incited to arrange to carry forward at Cordoba, on an extensive scale, a similar work upon the southern stellar clusters. His other labors there were so onerous that he confined his attention to securing plates suitable for precise measurement. Of these he accumulated about 1400, and brought them home with him for measurement and reduction. Without permitting himself a well earned retirement, he turned at once, tirelessly, to this labor, which has been the principal occupation of the last ten years of his life. This is substantially complete, and will be given to the world as it came from his hand.

Dr. Gould had an enthusiasm for the advancement of his beloved science far wider than the limits of what he could by personal investigation accomplish. Early in his career he keenly realized that astronomy had reached a stage of development in America which entitled it to a higher claim than had yet been accorded to it; and that a journal worthily supporting the dignity of a pure science would have very great influence upon its future progress. Accordingly, without ostentation, he established the "Astronomical Journal" in November, 1849, offering it to the use of astronomers, for the publication exclusively of original investigations. He edited and supported it until, at the end of the sixth volume, in 1861, its issue was suspended, first by the war for the preservation of the Union, afterward by his absence in Cordoba. A long nurtured hope was realized when he was enabled, in 1885, to resume its publication, and to continue it, at the rate of nearly one volume annually, to the present time. Of all the great enterprises of his life, this is the one which he has most cherished. With careful forethought, he has made due provision for its continuance.

Dr. Gould took a deep interest in the work of the International Committee of Weights and Measures, of which he was a most influential member. He represented both the United States and the Argentine Republic on that Committee, and was a constant attendant upon its annual conferences in Paris. He was President of the American Metrological Society and of the Colonial Society of Massachusetts from their inception. He was one of the original charter members of the National Academy of Sciences, and has been a member of the American Academy of Arts and Sciences since 1847, and one of its Vice-Presidents since 1895. He received the degree of Ph. D. from Göttingen in 1848, and that of LL. D. from Harvard in 1885, and from Columbia in 1887. During his illustrious career he was the recipient of the highest honors that Europe has to bestow, to an extent scarcely vouchsafed to any other American. A few only will be named here. Mem. Roy. Soc. (London): For. Assoc. Roy. Astr. Soc. (London): Cor. Mem. Acad. Sci. (Institut de France): Acad. Imp. Sci. (St. Petersburg): Kön. Akad. Wiss. (Berlin): Kön. Ges. Wiss. (Göttingen): Kais. Akad. Wiss. (Vienna): Bur. d. Long. (Paris). He was also knighted, of the Order Pour le Mérite, by Prussia.

Dr. Gould came, on both paternal and maternal sides, of old Colonial stock. The interest which he took throughout life in genealogy and the history of the early founders of New England was the outcome, not so much, perhaps, of pride of ancestry, as it was of his intense patriotism, which was one of his most marked characteristics. Next to the sacred domestic ties and the innumerable personal friendships which he so tenderly cherished, even before his devotion to his beloved science, came his affection for and pride in his country. No more vivid exemplification of this can be given than his remarkable utterance, prefacing the sixth volume of the "Astronomical Journal," on the occasion of its temporary suspension by the war in 1861: "There is but one mode of laboring for Cisatlantic science to-day, namely, by struggling for the maintenance of civilization against barbarism in the Western Hemisphere. And this leaves little opportunity for astronomical research. Those who may not fight against armed treason may at least assume the burdens of those who do."

Dr. Gould married, in 1861, Mary Apthorp Quincy, daughter of the Hon. Josiah Quincy. She died in 1883. Never was there a nobler example of a wife's self-sacrifice than hers, in the endurance of privation and self-imposed exile, the severance of family and social ties, for the purpose of making possible the accomplishment of a husband's life-work.

Dr. Gould died on Thanksgiving day, November 26, 1896. His memory and achievements are a precious heritage to his country and his science.

SETH C. CHANDLER.

The Academy has received an accession of one Resident Fellow, one Associate Fellow, and three Foreign Honorary Members.

The roll of the Academy, corrected to date, includes the names of one hundred and ninety-three Resident Fellows, ninety-three Associate Fellows, and sixty-six Foreign Honorary Members.

MAY 12, 1897.